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U.S. Department
of Transportation

Research and
Special Programs
Administration

RSPA-98-4418-5

DEC 11 1998

400 Seventh Street, S.W.
Washington, DC 20590

DOT-E 12135

EXPIRATION DATE: November 30, 2000

(FOR RENEWAL, SEE 49 CFR SECTION 107.109.)

DEPARTMENT OF TRANSPORTATION
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DOCUMENT SECTION

1. **GRANTEE:** Daicel Safety Systems, Inc.
Tokyo, Japan

U.S. Agent: Sonnenschein Nath & Rosenthal
Washington, D.C.

2. a. **PURPOSE AND LIMITATION:** This exemption authorizes the manufacture, marking and sale of non-DOT specification cylinders (pressure vessels) for use as components of automobile vehicle safety systems. These pressure vessels may be charged with non-toxic, non-liquefied gases, or mixtures thereof and are authorized for transportation in commerce subject to requirements and limitations specified herein. This exemption provides no relief from any regulations other than as specifically stated.
 - b. **FIVE YEAR TRANSPORTATION AUTHORIZATION:** This exemption authorizes transportation of the pressure vessels identified herein for up to five years from the date of manufacture. This exemption provides no certification of safety for end use environments and life cycles.
 - c. **EXEMPTION SCOPE LIMITATIONS:** This exemption only applies to a package when it is an article of commerce in transportation. The safety analyses performed in development of this exemption only considered the hazards and risks associated with transportation in commerce. The safety analyses did not consider the hazards and risks associated with consumer use, incorporation as a component of a vehicle or other device, or other uses not associated with transportation in commerce.
3. **REGULATORY SYSTEM AFFECTED:** 49 CFR Parts 106, 107 and 171-180.

4. **REGULATIONS FROM WHICH EXEMPTED:** 49 CFR 173.301(h), and 173.302 and 173.306(d)(3) insofar as non-DOT specification cylinders are not authorized.
5. **BASIS.** This exemption is based on Daicel Safety Systems, Inc.'s application dated August 24, 1998 submitted in accordance with § 107.105 and the public proceeding thereon.
6. **HAZARDOUS MATERIALS (49 CFR 172.101):**

Hazardous materials description/proper shipping name	Hazard Class/Division	Identification number	Packing Group
Non-toxic, non-liquefied gases and mixtures thereof/ Proper shipping name as specified in 49 CFR 172.101.	2.1, or 2.2 as appropriate.	As appropriate	N/A

A vehicle safety system or component which contains a quantity of pyrotechnic materials must be classed and approved as provided for in Section 173.56 of the Hazardous Materials Regulations (HMR). If the pyrotechnic material augments the volume of the gas in the pressure vessel, or in any way enhances the performance of the compressed gas, the device must be tested in the same configuration as when shipped.

7. **SAFETY CONTROL MEASURES:** Packaging prescribed is a non-DOT specification pressure vessel meeting the following requirements:
 - a. **PACKAGING:**
 - (1) The maximum service pressure at 70°F may not exceed 4560 PSIG. The minimum test pressure is the pressure of the contents at 200°F. The rated service pressure may not exceed 80 percent of the test pressure and the water volume of each pressure vessel may not exceed one liter.

(2) Material of construction must conform to all requirements of §178.65(b), except that aluminum is limited to 6061 alloy of T6 temper.

(3) Manufacturing requirements must conform to all requirements of §178.65(c).

(4) The minimum wall thickness must be such that the wall stress meets the requirements of §178.65(d).

(5) Openings and attachments must conform to all requirements of §178.65(e).

(6) Each pressure vessel must be equipped with a pressure relief device designed to meet all the requirements for a rupture disk prescribed in the Compressed Gas Association (CGA) Pamphlet S-1.1. The pressure relief device shall be capable of preventing rupture of the pressure vessel when subjected to fire test conducted in accordance with CGA Pamphlet C-14.

(7) Pressure vessels, components, and vehicle safety systems must be transported in strong outside packaging in accordance with 49 CFR 173.301(k).

b. **TESTING:**

(1) Each pressure vessel must be tested as required in §178.65(f) except that the hold time at test pressure specified in §178.65(f) may be limited to that which is adequate to insure compliance with the requirements contained in §178.65(f) subparagraphs (i) and (ii) .

(2) A representative vehicle safety system, packaged as it would be for shipment, must be activated and no materials other than non-toxic, non-flammable vapors or gases may be expelled from the package.

c. MARKING:

Each pressure vessel must be durably marked as follows:

DOT E-12135/4560¹

lot No. xxxxx²

Manufacturer's Name

This Pressure Vessel May Not Be Refilled

¹ Where 4560 represents the design service pressure.

² Where xxxxx is the lot number as appropriate.

Note: Each line of these markings may be placed without regard to location or order on the pressure vessel.

8. SPECIAL PROVISIONS.

a. This exemption is limited to pressure vessels used as components of a vehicle safety system. The pressure vessels are excepted from the requirements of the HMR, Part 178 when the design has been certified by an Independent Inspection Agency, approved under §173.300a as having met all the requirements of this exemption.

b. The Independent Inspection Agency's design certification must include test results and documents related to explosive classification and approval. A copy of the certification must be maintained at each facility where the vehicle safety system is manufactured and by the Independent Inspection Agency for a period of 15 years from the date of completion of the design certification.

c. Persons who receive the packages covered by this exemption may reoffer them for transportation provided no modification or changes are made to the packages, all terms of this exemption are complied with and a current copy of this exemption is maintained at each facility from which such reoffering occurs.

d. Daicel Safety Systems, Inc. must comply with all provisions of this exemption, and all other applicable requirements contained in the HMR, Parts 171-177. No modifications may be made to the pressure vessel, pyrotechnic components or production vehicle safety system which would affect the performance of the vehicle safety system or its compliance with the requirements of this exemption until such modifications have been

DEC 11 1998

reviewed, tested and certified by an Independent Inspector as meeting the requirements of this exemption.

e. Except when transported on passenger carrying aircraft, devices utilizing the non-DOT specification pressure vessel authorized herein are exempt from the requirements of 49 CFR Parts 100-199 when installed in a motor vehicle or in completed vehicle components such as steering columns or door panels.

f. This exemption is to serve as an authorization of The Competent Authority for the United States (CA-9812007) in accordance with the General Packing Instructions Part 3, Chapter 2 Paragraph 2.5 of the International Civil Aviation Organization Technical Instructions for the Safe Transportation of Dangerous Goods by Air (ICAO TI) and additionally meets the requirements of State Variation US 6. Pressure vessels or vehicle safety systems complying with this exemption are authorized to be shipped pursuant to Packaging Instruction 200 of ICAO TI.

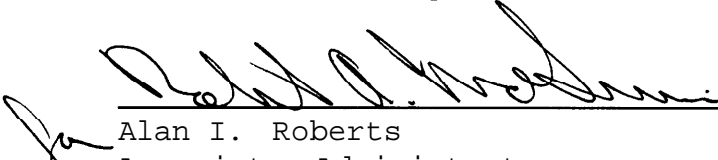
9. **MODES OF TRANSPORTATION AUTHORIZED.** Motor vehicle, rail freight, cargo vessel, cargo aircraft only.
10. **MODAL REQUIREMENTS:** A copy of this exemption must be carried aboard each cargo vessel and aircraft used to transport the packages covered by this exemption. The shipper shall furnish a copy of this exemption to the air carrier before or at the time the shipment is tendered.
11. **COMPLIANCE.** Failure by a person to comply with any of the following may result in suspension or revocation of this exemption and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. Section 5101 et seq.
 - o All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, Parts 171-180.
 - o Registration required by 49 CFR 107.601 et seq., when applicable.

Each "Hazmat employee", as defined in 49 CFR 171.8, who performs a function subject to this exemption must receive training on the requirements and conditions of this exemption in addition to the training required by 49 CFR 172.700 through 172.704.

No person may use or apply this exemption, including display of its number, when the exemption has expired or is otherwise no longer in effect.

12. **REPORTING REQUIREMENTS.** The carrier is required to report any incident involving loss of packaging contents or packaging failure to the Associate Administrator for Hazardous Materials Safety (AAHMS) as soon as practicable. (49 CFR 171.15 and 171.16 apply to any activity undertaken under the authority of this exemption.) In addition, the holder of this exemption must inform the AAHMS, in writing, of any incidents involving the package and shipments made under the terms of this exemption.

Issued at Washington, D.C.:



Alan I. Roberts
Associate Administrator
for Hazardous Materials Safety

DEC 11 1998

(DATE)

Address all inquiries to: Associate Administrator for
Hazardous Materials Safety, Research and Special Programs
Administration, Department of Transportation, Washington, D.C.
20590. Attention: DHM-31.

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